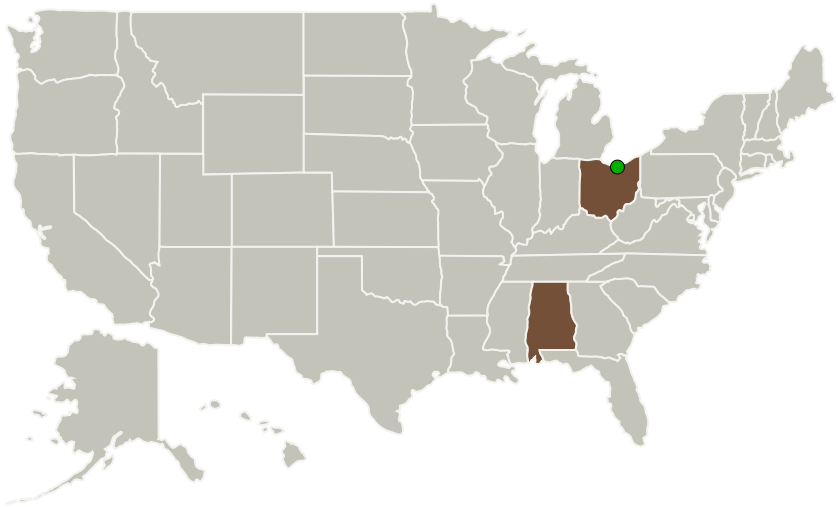
Additively Manufactured Low Power Thrusters for Secondary Payloads, Phase I

Completed Technology Project (2016 - 2016)

Project Introduction

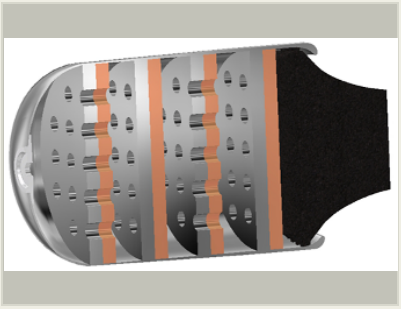
Arctic Slope Technical Services, ASTS, is pleased to propose this innovative approach for reducing the cost and power requirements for an electrically-heated, stored gas thruster well-suited for use in small spacecraft and satellites (CubeSats and NanoSats especially). The thruster features exceptionally-high heat transfer from the heaters to the gas, which will provide excellent Isp performance at much lower power than traditional thrusters. We will also use an additive manufacturing approach, which will greatly reduce production costs.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
ASRC Federal Astronautics, LLC	Lead Organization	Industry	Huntsville, Alabama
Glenn Research Center(GRC)	Supporting Organization	NASA Center	Cleveland, Ohio

Primary U.S. Work Locations	
Alabama	Ohio



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Project Transitions

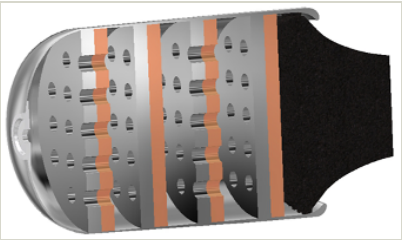
June 2016: Project Start

December 2016: Closed out

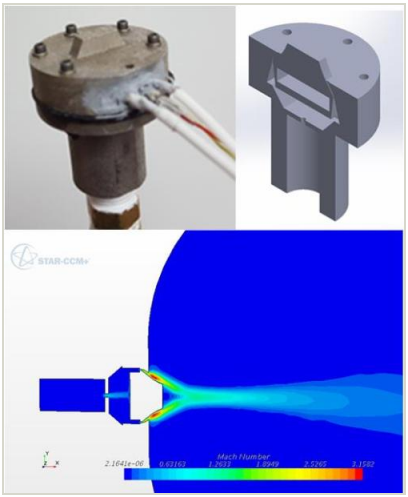
Closeout Documentation:

- Final Summary Chart*(https://techport.nasa.gov/file/139794)*

Images



Briefing Chart Image
Additively Manufactured Low Power Thrusters for Secondary Payloads, Phase I
(https://techport.nasa.gov/image/132710)



Final Summary Chart Image
Additively Manufactured Low Power Thrusters for Secondary Payloads, Phase I Project Image
(https://techport.nasa.gov/image/129470)

Organizational Responsibility

Responsible Mission Directorate:
Space Technology Mission Directorate (STMD)

Lead Organization:
ASRC Federal Astronautics, LLC

Responsible Program:
Small Business Innovation Research/Small Business Tech Transfer

Project Management

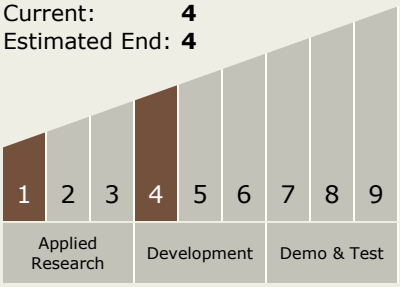
Program Director:
Jason L Kessler

Program Manager:
Carlos Torrez

Principal Investigator:
James Temple

Technology Maturity (TRL)

Start: **1**
Current: **4**
Estimated End: **4**



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Completed Technology Project (2016 - 2016)

Technology Areas

Primary:

- TX01 Propulsion Systems
  - TX01.1 Chemical Space Propulsion
    - TX01.1.7 Cold Gas

Target Destinations

The Sun, Earth, The Moon, Mars, Others Inside the Solar System, Outside the Solar System